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FUTURE STUDIES AND FORECASTING IN LOGISTICS

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ABSTRACT

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This research study analyses the relation between strategy and forecasting. In more concrete terms, it analyses if current logistics research provides sufficient and valid data to be meaningfully implemented on strategy development.

The relationship of strategy and forecasting is evaluated in case study of Nurminen Logistics Oyj. The main research question is, what is the competitive advantage in the future for logistics companies in Finland and what kind of future research would be useful and valid for a logistics company in order to forecast the future. Interviewing selected persons from the board and management gave more insight and helped to establish trends and patterns in the field. Findings were reflected to another development project thesis from same field in order to find similarities and influences on competitive advantage for logistics companies.

Future research does not provide enough accurate and usable information for SME logistics companies. Current future prediction methods are not efficient or are too heavy for corporate use. Weak signals and selected macro-level scenarios are the main source of future knowledge for logistics companies in Finland at the moment.

As a result of this development project thesis, future changes affecting logistics were identified and key features to maintaining competitive advantage in the future were found. Environment and security issues will have impact to logistics. Technological advancements will also facilitate changes. Structural changes in Finnish industry and educational advancements can also have an effect. Key factors for maintaining competitive advantage for logistics companies are networking, maintaining agility, differentiation from competition and choosing future indicators to follow. In order to maintain their position and competitiveness, logistics companies must recognize their future knowledge sources and use future information for decision making purposes.

FOREWORD

This thesis was written to Nurminen Logistics Oyj. Nurminen provided me the possibility to finish my studies while working as Section Manager.

Satu Peltola, Senior Lecturer from Kymenlaakso University of Applied Sciences was the supervisor of this thesis. I'd like to thank Risto Holopainen, Matti Lainema, Jan Lönnblad and Harri Vainikka for their interviews and willingness to share their experience and expertise. I'd also like to thank all my colleagues at Nurminen, who supported me during my studies.

My gratitude also goes to my husband, who unselfishly gave me the time and peace needed to finish my assignments and thesis.

Working and studying at the same time is definitely challenging. I hope that this thesis will also encourage others to pursue their professional and personal future goals. "The future depends on what you do today." – *Mahatma Gandhi*

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1. INTRODUCTION

Availability and development of information systems, on-line services as well as changes in global business environment have resulted into changes in the field of logistics. Some changes are very predictable, other not so much. When the Russian Federation informed about setting new customs duties to imported wood, the Finnish wood industry was shaken and effects rippled also to other industries.

Every company has to keep their eye on the horizon in order to know more than the competition. Planning ahead is essential for companies in order to survive. However, the real advantage comes only through careful strategy building and investment to the future. How can anyone know what will the future hold, is a big question. Forecasting and future tools will play a significant role also in strategic planning.

1.1 Objective of the Thesis

Tools for forecasting future changes in markets and business environment will be more and more important for companies. As logistics is a fairly new social science, little research has been focused particularly on logistics. Recognizing validated knowledge for forecasting is also very problematic. *What kind of future research would be useful and valid for a logistics company in order to forecast the future*, can be asked. This question was approached by studying already existing knowledge bases in comparison to company board and management needs by case study.

The focus of the study is on logistics forecasting in small and medium –sized companies in Finland. Also ways by which logistics research could support actual businesses in strategy adjusting to meet a much more dynamic market than before is analysed and discussed. The relation between strategy and forecasting is analysed; does current logistics research provide enough and valid data to really implement on strategy development. The relationship of strategy and forecasting is evaluated in case study. **Main research question is; what is the competitive advantage in the future for logistics companies in Finland.** Also this study investigates what tools and methods to be used to foresee the future.

1.2 Structure of the study

The main goal is to find out if the current research and study methods provide usable data and results for logistics businesses in Finland. For some reason there seems to be a common perception that in order to understand any future happenings, everything should be known about everything. Future research from logistics viewpoint is rare and businesses do not have resources or knowledge to conduct such study. Also, the whole concept of future studies in logistics is questioned as too vague and impossible in the field.

As not many theories exist on logistics future study or forecasting, deductive research method was not considered suitable (Creswell 2003). For this study, an inductive logic methodology was applied by first formatting the research question. Based on the theoretical study of existing literature, questions for interviews were formatted and a case study carried out. Based on the answers and the case study analysis, the research question was answered.

1.3 Methodology

Some of the research was purely theoretical and different kind of literature was used as the data source. This data was approached by collecting, unifying and analysis. Case studies have been widely used when exploring issues within social sciences (Yin 2003). Another way would have been to approach the research question through action research, which has been used in research closely related to solving actual problems or unfolding series of actions taken place over certain time period. Action research, however, would have required participation in real decision making situations, which was not the case in this study. (O'Brien 1998)

Nurminen Logistics is a medium sized logistics company operating mainly in Finland, Russia and other CIS countries. Case study of Nurminen Logistics Oyj was conducted in order to have more detailed information about true changes in the actual process and gives a chance to explore possible development areas in the process. Looking

back on past strategies and outcomes of Nurminen, valuable information was obtained. History and company development of Nurminen was studied and analysed. Information from Nurminen history was first reviewed in historical order and recognizing strategic turning points for the company. This material was categorized in a semantic way by finding the events and circumstances effecting and facilitating change.

In order to establish the current situation in the company regarding future planning and strategy adjustment, interviews were conducted. Semi-structured interviews were selected as a method to have deep insight on the subject with little actual recognition and to maintain certain subjectivity in interview results (Hirsjärvi, Hurme 1985). Interviewing selected persons from the board and management helped to establish trends and patterns in the field. The people were chosen for the interviews based on their position and history working with Nurminen -company. Findings were reflected to another development project thesis commissioned by DHL Freight (Finland) in order to find similarities and influences to competitive advantage for logistics companies.

2. LOGISTICS, SUPPLY CHAIN MANAGEMENT AND INTERNATIONAL TRADE IN THE EUROPEAN UNION AND FINLAND

In Europe there is a noticeable trend towards growing regionalism. Different regions try to stand out and build a more distinct and stronger image for themselves. The motivation is the search for uniqueness and success. Also, networking is a key factor in European development. Gateway thinking and dependence on geographical location enable the Central-Europe countries to have other regions in the front lines as pioneers and relationship builders towards countries outside EU. Location seems to be one of the success factors for EU countries. For Finland gateway perspective is not new, and location is definitely important regarding logistic possibilities and international trade. The eastern gateway to Russian market has had new developments since the expanding of EU in 2007. Estonia, Lithuania and Latvia can be seen as competitors in the logistics business from Finland's viewpoint. Finland's strength in the rising competition is distribution chains meeting with sustainable development. (Seppänen 1997)

Regionalism has caused companies to focus on specific needs and customers with demand for services in a certain geographical area. Even though many other Baltic sea ports are catching up to be the first choice transit route to Russia, Finnish sea port still have the advantage of being safe, reliable and efficient with working land connections. Corruption and political reasons still stand in the way of many Baltic countries when it comes down to transiting over Russian borders. For Nurminen Logistics, focusing on railway transports as well as offering cargo handling and warehousing is the focal point of operation. Helsinki, Kotka and Hamina are all part of the South-East transit corridor and will be competing head on with the newly built Ust-Luga and St.Petersburg Ports.

2.1 Outsourcing

Logistics has evolved into more than just transporting and warehousing. Integrated supply chains and demand for more complete service products are challenging logistics service providers to further develop their business.

Globalisation impacts literally throughout nations and cultures, economies and organisations. Migration of the working force will increase and cultures that were closed before will be exposed to new influences. However, there has to be a political will to open up trade. Several organizations such as GATT (General Agreement on Tariffs and Trade), the WTO (World Trade Organization) and the EU (European Union) aim for a united goal of open and free trade. Due to globalization supply chains include more transporting, more parties involved and require more management. This poses challenges to distributing information throughout the supply chain. Many companies have found their supply chains to be so complex, that they have outsourced logistics to third party operators with enough skill and expertise to manage global supply chains. (Ruston & Walker 2007)

Outsourced logistics can be taken as far as using a single logistics integrator who takes care of the logistics of the company as a whole. This kind of fourth party logistics provider (4PL) can produce the services itself or outsource and subcontract in order to

sustain the widest possible service pallet. In modern logistics, the supply chain should be developed sustainably in order to gain added value and improve cost-efficiency. (Miettinen 2010)

When taken even further lengths, outsourcing logistics services can also mean subcontracting between logistics service companies. This kind of outsourcing requires trust and visibility in operations between the companies involved. Already it is technically possible to use another company as a technical sender in customs clearance. This means that when clearance is issued, the technical sender party is not mentioned or visible anywhere else but in Customs system. This possibility will enable multinational logistics companies to utilize local and regional expertise and still giving out one brand to the customers.

2.2 Finland from international trade's viewpoint

Finland is mostly viewed as a gateway to the east, but it can also been seen as the gateway to the west from a different viewpoint. As exports are the main income for Finland, understanding the meaning of positioning in the market is important. Finland has also other gateway-countries to compete with such as Estonia and Lithuania. Geographical gateway is not a unique feature. Finland also needs to attract gateway traffic by other means; offering services, working and up to date infrastructure, efficient cargo handling and maintain good political relations to facilitate positive trading environment.

Although gateway thinking can be beneficial when developing expertise in the Russian trade, it can also be quite vulnerable to changes in political atmosphere as well as other national decisions and changes in Russia. Transit traffic, however, enables adequate container equipment availability for Finland's export, so understandably it will have a significant meaning for Southern and Eastern Finland logistics operators also in the near future. Developing and facilitating this traffic is important from regional as well as national viewpoint.

In addition to being seen as a gateway between east and west, Finland also has a

strong association with other Nordic countries. This linkage is not yet often used as a selling point, but when talking about overseas traffic flows also this regional aspect can have meaning. Not only focusing on Nordic exports and transiting, but also European traffic to Russia and CIS-countries and vice versa, is a market developing.

2.3 Changes in logistics in the European Union

Logistics embraces the change globalization brings. Supply chains become multinational and operators seek to have global networks. Already we have seen a major shift in production towards China, India and other cheap labour countries. This has had an impact on supply chains and has brought outsourcing in logistics to a new level.

As companies invest great amounts of money and time into their logistics, Customs cannot be a barrier between smooth the movement of goods in the supply chain. Customs processes must be synchronized with the demands of international trade and provide the right kind of service in order to support the efforts of thriving companies. The EU represented a new Customs Codex in 2008 to the needs of modernization. There has also been made a unanimous decision between the EU Parliament and Council to switch to paperless Customs service inside the EU. Nowadays the role of Customs Authorities is more in anti-fraud, anti-terrorism and anti-organized crime and pro-international trade than a tax collection agent for the governments. The Finnish Customs is a part of WCO (World Customs Organisation) and a part of the European Union. While international trade increases the flow of goods, the Customs is trying to cope with new challenges with ever diminishing resources. At the same time Customs is fulfilling its responsibility in monitoring and controlling the movement of goods and crime prevention. Customs project eCustoms was established in order to facilitate paperless customs service and also to have better security for goods crossing EU borders. Single electronic Access Point (SEAP-concept) means, that in the future there would only be one access point for trade parties to give all customs declarations no matter to which EU country the goods are arriving to. Through this access point all other Customs points in the EU could have access to the same data. This would prevent extra work from the Custom's side as well as the customer's side. Also this data would be available to other authorities working in co-operations with the

Customs. The 9/11 events have already influenced directly to the free movement of goods globally. The ISPS code (International Ship and Port facility Code) set forth a wave of changes which eventually leads to more controlled, traceable and foreseeable movement of cargo. (Moilala 2009)

Having more controlled and monitored cargo traffic is beneficial considering reducing smuggling and other criminal activity. Also cargo loss and damage is easier to trace in more accurately monitored supply chain. Paperless forwarding has also meant investments in logistics companies and shipping lines. Technical standards and IT-skills have more meaning for logistics companies which are very much reliable on working software and IT infrastructure. Logistics personnel have taken a lot of the responsibility and data inserting tasks which were before done by Customs. This presents a need for logistics professional's IT education also in Finland.

Supply chains have evolved to more value based value chains. Recognizing and satisfying customer demands, is the driving force in value chains. The purpose of the value chain is to facilitate all that is needed in order to bring the money home from the end-users or end-customers and ultimately consumers. Companies have to find ways to attract customers in various ways, such as easy access and fast and reliable information transfer systems. The companies can be seen as a part of value producing network. The key success factor is for the company to find a way to satisfy and exceed their customer's needs. Based on the value field and changes in the field can be seen that understanding the market and the customer is becoming even more important. (Haapanen, Vepsäläinen, Lindeman 2005)

Nowadays the decision-making process in companies faces a challenge against time. Faster changes in the market force the companies to react at a fast pace. Short-term planning needs to take more matters into account and analysis must be made quicker. Listening to the customers, seeing the competitors and understanding political influences in world trade are just few examples which must be recognized in decision making. Maintaining focus is in key role when trying to keep up with fast paste business.

The European Union has for some time taken efforts to have an environmental approach to logistics. Moving traffic flows towards more environmentally friendly ways of transportation, congestion fees and taxation decisions on fossil fuels are measures taken in order to influence attitudes in logistics. Moving to greener and environmentally sensible solutions in moving goods is the first step towards more sustainable logistics. Green logistics has been on the table in logistics for a long time, but it has not really materialized. It has been in the talks for nearly a decade and the question is will environmental issues shape logistics in Europe more in the future.

2.4 Meaning of integrated information systems in logistics

Information systems play such a huge role in logistics, which also narrows down the competition. Small companies do not have the finances, expertise or resources to build integrated systems with the customers. Nowadays service performance also depends on, how dynamic a company can be in responding to the customer needs.

Globalization is a phenomenon caused by free trade. Now that countries and communities are subjected to new material flow, they are also expanding their horizons to movement of people, information, finance and services. Transportation is no longer a matter between the seller and the buyer but it is a part of the supply chain towards the final consumers. Transport services should be designed bearing in mind the global viewpoint and only then adapted to local needs. (Kissling, Tiffin 2007)

Logistics branch is also facing new challenges when managing integrated supply chains. Integrating customer information systems and production systems to traffic planning can be costly and demanding. As customers require more transparency to the supply chains, more accessible and integrated information systems are needed. The most important feature for a system for logistics need is the ability to integrate other systems and flexibility. Logistics as such is too complex for one system to be fully managed. Although ERP-systems such as SAP do try, the fact is that most ERP-systems are such too heavy to be agile and dynamic. Therefore at least for the smaller logistics provider, the possibility to add customers systems or own to another system becomes the critical issue. Manual data feeding is expensive and requires too much time.

3. LOGISTICS RESEARCH

Logistics as an independent research branch is more than vague. According to some definition almost everything relating to international business can be considered as logistics. As logistics can be considered cross-disciplinary by nature, it can be difficult to distinguish the real essence of logistics research. (Arlbjorn, Halldorsson 2004) In Finnish education system logistics has been often defined as business logistics and technical logistics. This approach gives rough lines to research. However, more than often one side cannot be researched without considering the other. However, finding the essence and core of logistics is essential in order to establish starting point to logistics research.

Borrowing theories from other disciplines brings certain benefits; not repeating same mistakes as others, more advanced knowledge base and linking effect to other disciplines. Logistics takes benefit in fact, that scholars of other sciences often have a different viewpoint on issues. This borrowing action between disciplines is not at all uncommon and also accounting and political sciences have been known to utilize existing theories. (Stock 1997)

3.1 Approaches to research

In logistics there are two kinds of researchers, one kind focusing on analytical research and the other kind building on systems theory. According to Arbnor and Bjerke's (1997) methodological framework, there are three approaches in logistics research: analytical, systems and actors approach. Analytical approach, being the most traditional, focuses on recognizing patterns and causal relations and the analyses of both. Objectivity is significant in the search for logical truth. As in analytical approach data and breaking matters into concepts are important, the method is very much quantitative data analysis. The systems approach, in turn, is closely related to understanding integrated logistics and supply chain processes. This approach is aiming to solve problems in specific logistics systems and to improve those systems. As the systems approach is a more pragmatic approach, objectivity in this research method is

lacking and rather the exact opposite is pursued. Case studies are an ideal method. The third and newer approach, is the actors approach. It is based on sociological meta-theories and does not recognize any objective reality. The approach argues with the fact of objective cause-effect-relations based on people's intentionality. The approach recognizes intensions as more important than external theories, and employs mostly qualitative methods. (Gammelgaard 2004)

Actors approach takes into account logistics management, which is very closely linked to other management areas in companies. As stated earlier, since logistics is very much integrated in other company functions, logistics management has also a part in the company strategy. It is important to recognize these factors when conducting research within the logistics discipline. Looking from future studies and forecasting viewpoint, however, the benefit of existing theories is mainly from economy and sociology and the starting point is relatively open for all sciences. Incorporating two very distinct issues, core of logistics and research of future, can be challenging.

The decisions and choices people make have the most impact on how the future turns out. The fatalistic thinking about predetermined future is out dated and has no relative importance in futures studies. Also most scholars tend to think that, as well as a possibility to influence future, it is also their duty to do so. Societies understanding their ethical responsibility and taking action based on desired future events can be considered a step towards more systematic future understanding. (Mannermaa 1999)

3.2 Logistics knowledge creation

In logistics, different viewpoints are common for researchers as many have different academic backgrounds. As in logistics one tries to see the whole supply chain, focusing on the essential and specific research areas can be challenging. One viewpoint is through four approaches to logistics knowledge creation applying two dimensions, one being the ambition to conduct research and other understanding the density of theory incorporated into research. Firstly, there is a method of storytelling and examination of known concepts. The problem with storytelling is that the reader can never be sure of the author's real understanding of terms used. It is to be considered in what way it can be defined whom to include in the discussion in the

world-scale in logistics. As the second quadrant, there is the idea of generating new concepts to logistics. Usually new concepts try to explain new ideas, but sometimes they include a great deal of assumptions. As with any science, there is also a third method; the existing knowledge base can be further refined and expanded. This is actually often the case in logistics research as there is a temptation to borrow from other disciplines. However, that can be a risk, if knowledge and concepts borrowed are not understood. Fourthly, the existing knowledge base can be expanded by borrowing theories from other disciplines. (Arlbjorn, Halldorsson 2002)

For future studies one of the main questions concerns finding valid information. Validity might not be a fundamental problem when borrowing from other sciences, but concepts can often be misunderstood or poorly constructed. In Finland logistics education has been constructed to serve the needs of businesses. Therefore actual scientific research in the logistics discipline is quite a new concept. If logistics is considered cross-disciplinary, one can ask, if it is necessary to have scientific research in the field of logistics per say. A lot of logistics information is not systematically collected and documented. Logistics research should do just that and somehow establish the missing link between actual practise and scientific research. However, cross-disciplinary, logistics research cannot rely only on borrowed data and methods. This kind of passive approach would ultimately lead to logistics discipline extinction and blending to other social sciences.

3.3 Knowledge sources for logistics research and forecasting

In Finland logistics clusters have been the first actual sign of future studies in the field of logistics. The gateway to the east in the South-Eastern corner of Southern Finland is an example. It is said that in order to develop logistics services it is necessary to see beyond traditional transportations. (Mäkelä 2001)

In order to understand future forecasting starting points, geographical and political environments cannot be ignored. It is clear that the market closest to the actual company defines the viewpoint to strategic planning, Even now when globalization is taking over local environments and cultures do have a bearing on how the futures are seen. From our perspective, economies such as the European Union and all changes in

legislation and market play a huge role in all business areas.

Macro-level studies supporting logistics research are useful, but also more detailed information is needed. Customer and market information is essential for logistics companies and forecasting. Weak signals collected from different sources form a base for forecasting in many small and medium sized logistics companies. Forecasting in logistics companies is done mostly from economic viewpoint. Anticipating changes in turnover in quarterly or monthly scale is done by collecting and analyzing enough weak signals and customer information to translate into figures in turnover. This economic data is important, but a logistics company should also have a forecast on production volumes and seasonal changes if any. Rather than approaching forecasting through euros, it could be seen also from operational viewpoint. Turnover is always also a question of pricing and therefore cannot be the only form of forecasting.

4. FUTURE STUDIES AND FORECASTING

In the business world the direction of the company can be simplified; what do we as a company want, what will the customers want and what does the ownership want. In order to make decisions on what to want from the future, all decisions driving to this future must be based on values. In order to have a systematic way to determine direction and focus future studies are needed. Future studies aims to provide information and knowledge to enable more accurate anticipation of future happenings.

Forecasting takes place in companies all the time. Economic forecasting is important to profitability and volume forecasting is used to anticipate changes in the amount of work. Unless specific tools and methods are being used to make forecasts, these predictions can be based only on tacit knowledge and personal opinions. Economic forecasting is based mostly on statistical methods and is not analyzed in this study.

4.1 Future philosophies

Concentrating on core competence and lean management, many companies have a

very narrow scope to the future. Living in the quarterly life, most companies have their focus in current issues rather than possible future happenings. Already in the 1930's a Russian economist *Nikolai Kondratieff* made statements that modern economies fluctuate in a repeating cycle of 40–60 years. This concept is known today as Kondratieff's waves shown in Figure 1. Right now we are coming towards the sixth wave and after ICT peaking new technologies will emerge. (Casti, Ilmola, Rouvinen, Wilenius 2011)

Kondratieff's wave -model

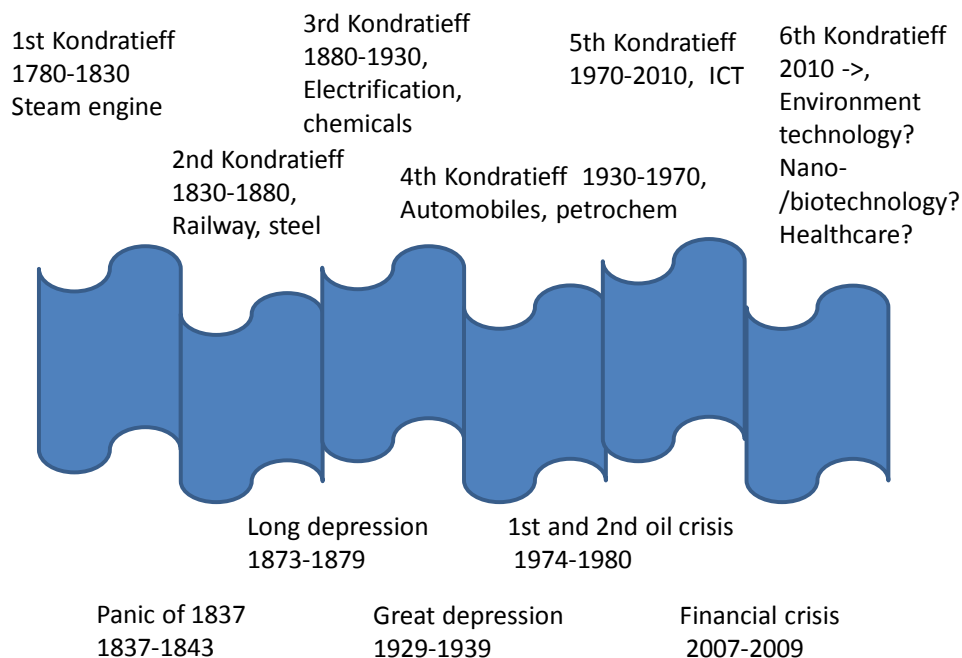


Figure 1. Kondratieff's wave-model

(Casti, Ilmola, Rouvinen, Wilenius 2011)

Kondratieff's wave model is only one way to look at future developments, but a certain continuity can be recognized in the wave model. According to Kondratieff's theory, economical and industrial events set forth the following wave occurring in time frames of few decades. New technologies and innovation enable change and are

unavoidably followed by depression or economic crisis. These fluctuations seem to take place in a pattern.

The same knowledge is out there for all businesses to utilize. Scenarios are a good tool, but usually not complex enough to sum up all possible futures ahead. The problem with scenarios is that they are based on current data. The outcome for scenarios is what can happen. The opposite way of thinking is to try and predict what will happen, and to think what must be done, so that this future will be. The company has to see their future in order to get there. If the company wants to succeed in imagining their future, they must be able to broaden their horizon of possibilities. This, however, is in contradiction to current isms like lean management and core competence. At the moment companies are concentrating on what they know, rather than what else they could know and do in the future. One way of tackling the future problem is to create new product and service concepts. Overall curiosity and understanding of markets and other industries is essential for forecasting the future. (Hamel, Prahalad 2006)

4.2 Future forecasting tools in logistics

It is common for logistics discipline to incorporate methods from other disciplines. All methods use in future forecasting are cross-disciplinary and can be somewhat applied. However, it remains under consideration, which methods are in any way relevant and bring real meaning to logistics research.

This study aims to evaluate how suitable scenarios and clusters are in logistics companies, how widely/frequently they are used, and if these methods have any real value to future forecasting in companies. The Delphi-method is a method used in an earlier future study, which results are being used in comparison to this research.

4.2.1 Delphi-method

The Delphi method originates from the US military research. It is a tool created solely on future forecasting, not to a single industry branch. The Delphi method is based on

choosing the subject and research group. The research group defines the main questions about current trends, threats, possibilities and weak signals. After formulating the questions, a survey is carried out. After that a panel of oracles, experts, is chosen. Feedback is given to the oracles with deviating answers. Based on these deviations a seminar is composed and survey questions reviewed again. Last steps are repeated until deviations have diminished. The Delphi method is often used as the last resort in future forecasting. Usually the subject to be forecasted is so intangible that it is not possible to predict it with mathematical analysis. Usually also collective subjective assessment is useful. As a result of the methods subjectivity also the results can be somewhat subjective. All the experts chose as oracles have their own agenda and limited field of expertise. Also the research questions can be subjectively distorted. Also as people have the tendency to prefer stability over instability the viewpoint to innovations is limited. Usually in researches using Delphi method the short term results are seen optimistic and long-term results as pessimistic. The Delphi method has been used in logistics. The methods usefulness is at its best in research where larger framework of future studies is relevant to the research topic. (Mannermaa 1999)

In logistics it is necessary to know about changing political and market situations which ultimately do have an impact on logistics service branch. As many aspects affecting logistic branch cannot be calculated via mathematical analysis, this method is quite suitable. Correctly chosen oracles and suitable time-frame can give more feasibility to the research. Therefore the Delphi method can be an effective tool also for future studies in logistics.

4.2.2 Clusters

Clusters are by definition concentration of business of the same industry or branch. Cluster thinking originates from Michael Porter and is considered to be more efficient and successful than companies operating on their own. (Wikipedia, 2012 Klusteri) Clusters can be used as a way of forecasting due to the fact that companies linked by the cluster can combine their information and knowledge to gain synergies.

Logistics operators in Finland are either multinational companies or smaller

companies. There are the global operators such as DHL (Deutsche Post Logistics GmbH) and DBSchenker who have their own corridors and traffic flows. There are also the medium-sized companies like Kuehne + Nagel Ltd, Itella Logistics and Nurminen Logistics Oyj which do not have a global network.

4.2.3 Scenarios

There are several types of scenario tools, explorative and normative scenarios. Explorative scenarios are based on past trends and they are replicated to the future. Usually there are set variables taken into account and modified in order to produce different scenarios. Normative scenarios approach scenario building from the end-result viewpoint. They start from the end-result working their way to present day. Scenarios can be used for a single industry branch or across branches. Usually the greatest innovations are found outside the company's own branch. Vision is also very much linked to scenarios as the scenario can be a threat or a possibility. (Mannermaa 1999)

Efficient scenarios are the ones which give actual reference about possible future happenings. The company can anticipate and prepare for these happenings by adjusting strategy and goals to support anticipated changes. Companies should be in the core of changes as a change agent rather than only waiting for tides shifting and reacting to changes already taken place. Proactive role is more efficient than reactive role for a company using scenarios as a tool of forecasting.

5. ABOUT STRATEGY

There are three different types of strategy frames commonly in use in companies. The first model was introduced by Johnson & Scholes and Näsi and Aunola (2001) call it the "British Knob"-model. This strategy type is very much based on analyzing and re-analyzing data in all phases: choosing the strategy, strategic analysis and implementation. Johnson and Scholes rely on PEST-analysis, scenarios, core competence and SWOT-analysis among others. In this strategy model the way to evolve is by generic strategies. It is also possible to develop strategy in other ways

such as retrieval, consolidation in growing, mature or regressing market, developing the product or the market and diversifying to mention few. Introduced in the 90's BSC (Balanced Scorecard) was designed especially for the purposes of strategic management and it is based on vision and strategy. Measuring performance in each stage of strategy implementation and analysis is important. BSC is widely used and utilized also in Finland. Choosing a strategy does not have to be tied up to one model only. Enabling implementation and insuring processes are key factors in strategic management. (Aunola, Näsi 2001)

5.1 Adjusting the company's positioning and direction

A company has to understand which matters it can affect and which are dictated by others. Anticipating future changes has become more complex during the last decades. Positioning into market correctly and making strategic choices to support is essential. If the market changes radically, a company must be agile to react accordingly. Waiting is no longer an option with shareholders waiting for fast profit. Positioning is based on understanding what customer needs and also where does a company stand in relation to competition (Laaksonen, Rainisto 2008).

As strategy is usually drafted looking forward a year or two, there must be a possibility to make changes in direction. Re-inventing core competence can be a possibility for a company, which has uncertain market.

5.2 Challenges in strategic planning

In order to keep up with changes, a company must have dynamic approach to all its processes. New innovation is key role when developing business and strategy. Companies need to facilitate and enable new innovation also internally.

Old and outdated authority-based organisation structures do not reflect the demands of dynamic and changing work environment. Good leadership has a major impact on efficiency, learning and wellbeing in the work place. In today's business environment leading organisations through education and learning rather than controlling and doing

what is told enables new kind of responsiveness towards the changing market and business environment. A company should consider its employees as its most valuable asset. It should also have a clear vision and strategy and also an organisation structure which support renewal in its many forms. (Sydänmaanlakka 2004)

In Figure 2 is shown how new insights can emerge from having consistent and accurate numbers as well as weak signals. Information and data alone cannot create new innovation. The key is in analysis of this data and actions based on gained insights.

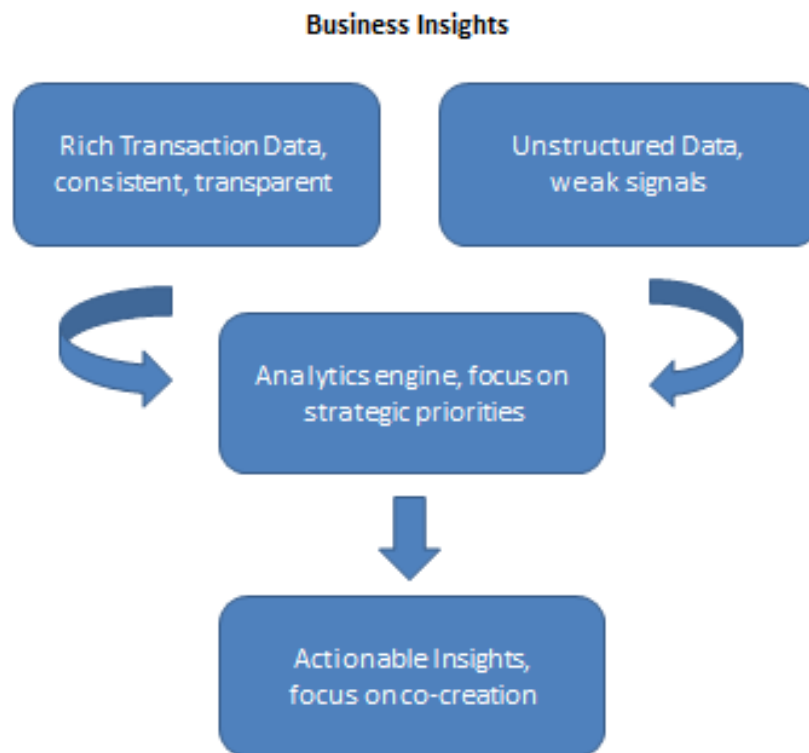


Figure 2: Business insights (Krishnan, Prahalad 2008)

As we are now living in information society, old methods and ways to plan for the future are somewhat outdated. Earlier, choosing the way or method of developing the corporate strategy was implicit and obeyed. In today's fast paced environment, understanding the value of using several concepts in order to achieve competitive advantage is an asset. For a company it is important to be able to choose the correct

strategy based on current situation. Nowadays it is just not enough to choose one strategy and to stick to it in the face of unexpected global changes. Agility, speed and sensitivity to respond and constant reinventing are in key role for a company to maintain its competitiveness. (Hannus, Lindroos, Seppänen 1999)

5.3 Meaning of future studies to strategy

Without information and data to base research and scenarios on, strategic planning would be based on good guesses at best. In order to plan long term and validate vision future forecasting is needed. In Figure 3 is shown how future knowledge should link to strategic planning.



Figure 3. Using future information in strategic planning.

In Figure 2 introduced above, facilitating innovation and incorporating future information to actual decision making process are equally important for successful

future planning. However, before being able to utilize future information, analyzing and collecting future data must be systematic in a company.

Future studies are linked directly to strategy planning as the company must have a vision on how the market will change in order to have a heading for its strategy. Instead on right sizing, delayering and refocusing, companies should have the ability to reinvent their branch and core strategy. It is not enough for a company to have a leading position in the current market; they also need to be able to facilitate their leading position in the future market. (Hamel, Prahalad 2006)

6. CASE: NURMINEN LOGISTICS OYJ

Nurminen Logistics Oyj is a full service logistics company. It offers a wide range of services including bonded warehousing, customs clearance services, railway transportation and special transports. In Figure 4 is shown loading of paper reels into Nurminen owned railway wagon. Main market areas are the Baltic Sea –region and CIS -countries.



Figure 4. Handling of paper reels (Nurminet internal website 2012)

Nurminen Logistics Oyj is a relatively new corporation consisting of five old John Nurminen Oy departments. In 2008 departments Customs Clearance services, Warehouse Services, Railway Services, Nurminen Heavy and Nurminen Care were united as one stock listed company. In John Nurminen consortium all three had independent organizations and management. Competitive situation inside the company was a problem and a lot of energy was wasted into internal cost and profit dividing. In Table 1 is displayed the economical development of the company in key figures.

Table 1. Nurminen Logistics Oyj key figure development 2006-2010 (Nurminen Logistics Oyj webpage 2012)

Key Figures	2010	2009	2008	2007	2006
EUR 1,000					
Net sales	69 682	62 490	81 846	75 015	70 179
Operating result	-618	2 374	4 638	3 746	1 487
Operating profit %	-0.90%	3.80%	5.67%	4.99%	2.12%
Personnel on average	344	363	355	413	407

In Table 1 it can be seen that the big fall in economy in 2008 was a turning point also for Nurminen Logistics. In 2010 the company had real challenges in terms of profitability. These recent figures reflect many decisions and adjustments made inside the company to reach customer and shareholder expectations. In the following chapters is opened Nurminen history and company development from the past 125 years in order to understand trends and patterns effecting company success and decision making.

6.1 Company development

Nurminen Logistic Plc is originated from a family company John Nurminen Oy with over 120 years in the business. What began in the 19th century from an entrepreneurship in the coastal city of Rauma expanded to 3rd party logistics service provider in the 21st century. Starting as reputable ship owner and evolving into the complex service provider has been quite the journey. As most of the logistics business it all started from sea transportation of lumber. The technological changes from wind energy to steam ships and motor vessels have affected the expansion of many companies. Also trading commodity goods was a part of the operation during the late 19th century. (Lainema 2008)

As the forest industry started to develop, so did the business. The Nurminen brothers also understood about the import business bringing back from their trade voyages many foreign commodities such as salt, cement and fertilizer. As Rauma was gaining a good position in sea transportation, also demand of efficient loading and unloading services grew. The First World War affected the business negatively as vessels were confiscated for war purposes and lost in battle. However, at the same, time transit traffic to Russia via Finnish ports started its rapid rise. This meant more forwarding business for the company. It also meant that new branch offices were needed and the expansion of the company jump started. (Lainema 2008)

In 1920 after Tartu peace treaty the company had to face difficulties. Firstly they were stuck with a vessel with ice breaking capabilities as the newly changed Finnish Government was not eager to buy. Secondly one of their vessels carrying lumber to Copenhagen had an accident and the cargo was beyond salvage. This incident led to a legal battle and compensations for the loss of cargo to the owners. Thirdly there was yet another accident with a vessel in the North Sea and the vessel was un-reparable. These unfortunate events had a major economic impact on the company's finances. The company had to find a way to compensate losses and the board had doubts about ship ownership business as a whole. In order to settle their finances they concentrated on selling vessels, property and other company ownerships. At this difficult time there was a confusion of the leadership of the company. In practice the bank had their saying and control over the board members. After two years the board had new

leadership and even though the years had been difficult, the forwarding business had been profitable and John Nurminen was the biggest company in this field alone in Finland. (Lainema 2008)

As the bank clearly had no real competence to lead the company any further, Antti Wihuri was the leader. The company also had an office in Danzig which needed a leader. The branch office in Danzig became a real problem but due to the fact that the company was doing poorly, nothing was done about it. The forwarding business was considered delicate as for its dependency on good relations to foreign forwarders. Danzig branch was seen as competition in Germany and it was bad for business. This indecision was a problem caused by the ownership of the bank and restricted jurisdiction of the board members. After 1923 when Jalmari Penttilä took charge of the head office in Helsinki and Rauma office the decision to move from ship owning to forwarding completely was established. Due to Wihuri's persistence and determination, the company was slowly turning towards a profitable business. His leadership concentrated very much on cutting costs. 1926 the company had turned their first profits after the melt down. (Lainema 2008)

After Wihuri's strict cost savings and lack to invest anything extra to the market John Nurminen and Antti Wihuri chose separate ways in 1932. This meant the beginning of new John Nurminen -company. John Nurminen Oy and Huolintakeskus Oy started a collaboration which turned out to be a profitable one. At this point the company gained offices in Turku, Hanko, Kotka, and Viipuri. (Lainema 2008)

In the late 30's the meaning of networks, marketing and business relationship had an impact on business. Huolintakeskus even had a contract with, at the time, the most prestigious and reputable forwarding company in Europe, Schenker & Co. Due to strategic reasons, connections to Europe were established. New co-operations were also used in marketing. In order to produce more sales, new clients were sought out actively. This was a new thing in the late 30's and John Nurminen as well as Huolintakeskus was criticized of this activity. To most companies it was considered as begging and therefore shameful. However, maybe it was due to this activity, that Huolintakeskus got the sole privilege to forward the 1938 Olympics. (Lainema 2008)

During the Second World War Nurminen had to change back to Rauma. Huolintakeskus handled all forwarding in Turku for the Finnish Defence Forces and also Nurminen personnel were involved. Before the Winter war, John Nurminen board decided to double their stock equity. After the wars Nurminen got a deal to handle all forwarding concerning vessels of the Soviet Union. This meant also transit traffic. In 1942 John Nurminen established steady traffic between Viipuri and Kemi with stops in all coastal port together with Oy Itämerilinja AB and Oy Suomi Shipping Ab during the Continuation War. Also new offices were opened during the war. At this time Nurminen, at the company's own request, got a separated book-keeping from Huolintakeskus. (Lainema 2008)

After the war ship owning and handling became the main business area and forwarding stepped back. After losing the profitable Russian clients John Nurminen had a change to take on representations of an American shipping line as well as an airline. During the ten years, Nurminen had managed to maintain a healthy growing turnover. During this time the board was headed by Matti Nurminen. (Lainema 2008)

In the fifties freights had increased and shipping was again profitable. Nurminen had a small fleet and they sold and bought actively making also profit. However, after two years the profitable freight contracts were lost. The time of team ships was over. Liner traffic to England was also considered as an option to get back into market. This, however, was not profitable and Nurminen withdrew quickly from the business. Fluctuation in freight rates was characteristics during the 50's and in 1957 the company was in trouble. They had to make several financial arrangements such as selling the office space and renting it with an option to buy back and utilizing the travel company Kaleva's, which was earlier integrated to the company, cash funds. (Lainema 2008)

In the sixties focus of Nurminen transferred from shipping to land operations. Nurminen made a profit selling the fleet and had diversified its forwarding activities. The company had taken over airport land activities and was also involved in the fur transportation. It was also involved in art logistics. Air freight was the next success story in Nurminen history after shipping. As land activities in the airport gave the company an edge compared to competitors, air freight had its high peak for Nurminen

in 1973. The travel business was suffering from increased personnel cost so computers were taken into use. (Lainema 2008)

In forwarding Nurminen bought several strategic ownerships from companies from western and eastern Finland. Offices were now in Helsinki, Turku, Vantaa (airport), Lahti, Jyväskylä, Hamina, Lappeenranta and Mäntyuoto. There were also co-operative offices in Kotka, Rauma, Hanko and Tampere. New warehouses and terminals were established in Helsinki, Lahti, Jyväskylä and Lappeenranta. Lappeenranta terminal was established for the needs of east bound import and export. Nurminen made a contract with a Russian transportation company Sovtransavto in 1969 for route Helsinki-Moscow. In the seventies Nurminen bought Oy Enroth Ab and gained more liner representations and better position to get more international liner presentations. Enroth had also reputable customers such as Kühne & Nagel and Schenker. Growth trend in turnover remained constant from 1967 to 1977. Mostly this was due to inflation and profit margin did not develop in the same pace. Nurminen did not succeed in raising the prices in order to control cost inflation or to re-organize operations fast enough. It was clear, that change was needed. (Lainema 2008)

Poor economic situation in Europe during the early 80's reflected on Finland as decreased export. New innovation, containers, changed shipping fleet and the role of forwarders. Containerization revolutionized sea transportation and enabled standardization in shipping, handling and forwarding. This new way to move almost any kind of goods in similar containers and determining freight rates based solely on transportation space was the first step to globalization. It also changed the face of road transportation. (Lainema 2008)

The road transportation business had small profitability at first but after 1980 Olympics traffic increased. Getting cargo for returning routes was a problem. Nurminen got a deal with the world's leading company in container business Sea-Land and got into the container game. There were also investments in transportation companies in order to solve the situation with lack of return freight. Nurminen had also a percentage of a company Cybernetics, making software and calculators. This venture was shortly outlived. Now that containers were the new way to pack and transport, road transportation and fleet had a meaningful role. The edge compared to

forwarding companies was shipment tracking. The transportation companies could offer more precise deliveries for the customers, than forwarding companies, who had to buy their transportation from transportation companies, both on road and in air. (Lainema 2008)

6.2 The first strategy

The word strategy was brought up in Nurminen board the first time in 1986. Defining the group strategy was on agenda. At this point their biggest problem was however the profitability of transportation- a problem foreseen to come up. The strategy, however, never saw day light. Just before the 90's recession in Finland Nurminen air was nearly 80% of the company's profit margin. However, the branch needed constant investments. Even though the profit margin coming from airport activities was expected to rise, the recession changed everything. Flight prices increased and a new competitor emerged. Also the travel business was in trouble and Kaleva had used vast amounts on its marketing. Kaleva did survive the recession and in the end better than the mother company. (Lainema 2008)

Nurminen tried to get into international transportation by creating an international network, but it had started too late. From 1985 to 1993 turnover stopped growing and in 1993 half of the company was sold to ASG Ab. In the 90's new ways to track cost per unit were established and also invoicing was monitored closely. Re-organization was put to effect and new partners sought out. ASG-Nurminen Oy was founded. (Lainema 2008)

During 1993 – 1997 Nurminen was back to growing its turnover and actively finding new business like border offices and the purchase of Aviation Center. These ventures came and went within a few years. In 1998 the economy had begun to rise and Nurminen was looking at critical points of success. Analysis was made of existing businesses and the company started to see it is business as logistics. Turned out, that shipping and liner representations had suffered over lose control, both financial and operative, which meant the end of shipping business for Nurminen. Also travel business Kaleva and Airport services -business were sold due to uncertain future development. Also Huolintakeskus operations were bought to complete Nurminen

logistics services. In 2002 Nurminen started to create new development strategy. (Lainema 2008)

6.3 The new millennium

The most important goal at that time was to bring all separate business areas in the company more together. John Nurminen had three major ideas: to concentrate of critical points of transportation such as borders and ports, local services and thirdly niche-services such as art logistics. However, the need to produce additional value to other logistics service providers as well as companies looking for logistics partner. (Lainema 2008)

Nurminen also considered growth possibilities and three new potential business areas were recognized; logistics consulting, building logistics and dangerous goods logistics. Also vehicle logistics and moving services were seen as a potential. At that moment Nurminen had 6 different business areas: warehouse and additional value services, fashion logistics, heavy transportation, autologistics, ship agency and railway transportation services. The company decided that in long term it would be possible to have four or five business areas to concentrate on. At this point the company felt that concentrating solely on one business area would be too risky for a family owned company. (Lainema 2008)

The board decided to strengthen already existing business areas and also to seek out new business for the portfolio. Also the decision to build John Nurminen Oy -brand was made. In 2003 the board recognized that some of the business areas had to be cut. However, the board also changed its mind about the amount of business areas in the portfolio and decided on at least 5 – 15. In the end after analyses fashion logistics, wood logistics, autologistics, railway transports, heavy transports and art logistics were considered to be successful. Customs Clearance Services was not considered as a business area per se, but its importance as a supporting activity was recognized. In 2003 Nurminen invested in autologistics and also chemical warehousing in Kotka Mussalo port when Bang & Bonsomer Oy asked for offers to build a chemical warehousing facility. From 2001 to 2003 Nurminen had increased turnover and also pulled from airport business. Autologistics proved to be successful until the new

recession in 2009. Autologistics and railway transportation were the new fastest growing businesses for Nurminen. Both were also invested in and new partnerships sought out. (Lainema 2008)

Nurminen -company has been very dynamic and organizational development has been on-going. As an employer Nurminen has been found very attractive, and changes in staff are rare. Long carriers of over 20 to 40's years of service are typical. For people to be able to work and have a sense of sustainability in such a change orientated environment is not to be taken for granted. Skillful leadership and motivation of employees have been the means to keep professionals in the company.

6.4 Going public

In 2007 John Nurminen Oy took a role as the family-owned company and warehousing and cargo handling, railway and heavy transportation and customs clearance services were separated as a public company Nurminen Logistics. (Lainema 2008) When three different business units, warehousing, forwarding and railway transportation were combined as one unit, Nurminen Cargo, it was possible to offer wide spectrum of services to our clients. For the first time it was a reality to be able to offer complete service in the supply chain. With new wagon acquisitions Nurminen wagon fleet was competitive and up to date. New services were retailed packages of warehousing, transportation and customs documentation. These new, wider range services are only possible, when information flow inside the company and its many departments is seamless.

Nurminen Logistics even pulled through in railway business when Russia implemented new tax tariffs on exported lumber. In railway transportations the success factor is related to the amount of wagons owned. Nurminen has bought own and made partnerships which increase this number even more. Also the Vuosaari logistics center was a big investment. Opened in 2008 just before the recession, the start has been challenging.

7. ANALYSIS OF PAST

Understandably to 125 years there have been lots of reasons to change course. Looking back on Nurminen history, it is clear that changes have been constant. Decisions have been made and the company has changed course from being a ship owner to travel business to logistics service provider. After 125 years of existence the company must have done something right. Reflecting company decisions to current political and economic environments has been in key role.

7.1 Starting point

As Nurminen company was born in a very traditional way through entrepreneurship and family business, the basis for growth could have been very limited. As with all family business handing over to the next generation is always a critical point; will anyone be willing to continue with the business. Nevertheless, Nurminen family line has been fortunate enough to continue on the legacy. When reviewing history of Nurminen, several incidents and procedures which lead to strategic changes in the company can be recognized.

The company also has very common roots with many other Finnish companies. The forest industry development has been a starting for successful businesses as well as a back bone of Finland's exports. Refined products, such as plywood and paper, required more sophisticated storage facilities, handling equipment, and transportation. Nurminen was ready to respond to demand.

7.2 Technological development

Technological changes, such as steam ships and communications that improved later, impacted on the company. Usually technological advances are seen as a possibility and from business view there is a profit to be made. Just as Nurminen first acquired fleet, it used the fleet for transportation and sold it when profitable. Also industrial development, mainly Finnish forest industry, enabling exports and imports, had a role

in company expansion. Later new concepts such as containerization changed the face of operations completely.

Nurminen existed in war and peace along the way. Political status and war fare also meant different times for the company. Naturally the low economic situation during war times forced all companies to figure out ways to survive. One example of the company finding the customers in hard times is Nurminen handling forwarding for the Finish Defence Forces during the Second World War.

7.3 The meaning of leaders

Throughout history of Nurminen, the family as well as other Nurminen people have left their mark in the company. The meaning of leadership in determining the company's direction cannot be ignored. Even though still mostly a family owned company, Nurminen has had strong board members and the owners have been very much in tune with the management as well as the board.

Looking back in history, great persons can be recognized. However, it is more challenging to see great people in the future when planning ahead. Therefore relying on just amazing leadership to insure steady growth and sustainable future is an illusion at best.

7.4 Economy

Naturally economical changes influenced the business. Nurminen shifted its business focus accordingly towards to what was profitable at the time. Inflation and lessen profits forced the company to re-organize. However, the company kept looking forward. Decisions were made constantly in order to respond and plan ahead. Just as any other company, also Nurminen was forced to turn to banks for financing. Entry to the stock market was a sign to prepare the company for outside investments.

Also the courage to give up business areas which had unforeseeable future has been a strength for the company. Withdrawal from airport business is a good example on

timing and understanding of future indicators. The big fall of the economy in 2008 took the business world by surprise. Nurminen, however, continued on with its plans with newly opened Vuosaari logistics centre trying to adjust to decline of volumes.

7.5 Changes in business

Nurminen company has shown that even a family owned company can be dynamic and in constant movement. The current perception of family owned businesses emphasizes stability and even stubborn commitment to sticking with the past and tradition. Nurminen has been bold in making changes in different business areas as well as inside the organization. Moving to matrix organization and a portfolio based business within different business areas, is just one example. Nurminen chose through internal analysis process the business areas they considered to be successful.

Combining different kind of information in order to make timely correct business decisions has been common for Nurminen. Establishing chemical warehousing and handling business to Kotka, the decision was made based on customer needs and also market information. At the time there were no chemical warehouse operators for solid goods in Kotka, so market was open and ready for a new operator.

7.6 Image and brand

During the past decade image and branding have been a topic in all business. Also for Nurminen the Vuosaari Logistics Center was considered an image question. Earlier Nurminen had not been very visible in Helsinki Port and now it has the best location in the new Vuosaari Port.

The brand of Nurminen is very much based on past and tradition. When compared to other logistics companies, Nurminen has kept a relatively low profile as a company. However, Nurminen is often associated to the preservation of the Baltic Sea through owners in John Nurminen –foundation. This association can be beneficial compared to other logistics companies.

Nurminen brand is known in the logistics branch, but otherwise it is not very well recognized. In Figure 5 is portrayed current Nurminen Logistics logo.



Figure 5. Nurminen Logistics corporate logo

Although having tradition and certain values linked with the Nurminen –name, branding is an issue to be addressed. Will the traditional family company image be enough to separate from the competition and is it even modern enough to appeal to customers, can be asked. Image and brand development must follow the time and find new ways to appeal to the customers.

8. PRESENT SITUATION

In order to establish the current situation in Nurminen, interviews with selected members of organization were carried out. In Appendix 1 can be seen interview body followed in all interviews. For the interviews, representatives from former and current board of directors were chosen, one from acting executive board and one from operational management. The interviewed persons were given a choice to have a face-to-face talk or to answer interview body questions by email. Three of the interviewed persons were able to have a face to face interview and one gave answers by email. In table 2 is shown a summary of interview answers relevant for establishing current situation in the company. Full summary on interviews is displayed in Table 3, appendix 2.

Table 2. Summary of selected interview answers

	Former Board Member	Current Board Member	Senior Vice President	Regional Manager
<i>Methodology; future tools in use</i>	Scenarios can be too vague. Concentration on chosen indicators in key role.	Some scenarios useful when in context with vision. Weak signals.	Following market situation in selected industries, competition and statistical methods.	Some scenarios useful. Constant flow of weak signals.
<i>What kind of information is useful</i>	Information related to core competence.	Information from customers and from selected branches.	Customer forecasts and strategies.	Information from customers and from selected branches.
<i>Where to get information and data</i>	Customers, research studies	Customers, research studies.	no answer	Customers, competition, clusters.
<i>How to have a valid plan for the future</i>	Concentrating on indicators and core competencies.	Concentrating on core competencies.	Concentrating on main market area, investment market and recent past.	Being constantly in tune for weak signals and other important indicators.
<i>Meaning of opinions</i>	Correct and chosen assumptions important and meaningful.	Important, being opinions usually individual experience - weak signals.	Important.	Important, also competitor information valuable.

The answers have a very similar trend and only small variations in answers were found. Both board members felt that scenarios are useful when focusing on certain aspects and in context with vision. Senior Vice President and Regional Manager did not find scenarios quite as useful, but answered that weak signals and distinct market information with statistical methods were most useful tools. All answers reflected that customer and market information are important. Senior Vice President also mentioned that customer forecasts and strategies have meaning. Three of the answers were unanimous that customers are the main source of information. Concentrating on core competence, chosen indicators and weak signals is according to the answers a way to plan for the future. Meaning of opinions was considered important in context to the person(s) giving opinion. Meanings were also considered as weak signals.

The structure of the answers somewhat reflect the person's position in the company. As board members have a broader vision of future planning than operational managers, also the understanding of knowledge creation is different. Customer

information is considered most important on operational level and research studies are more appreciated on higher level of management. Surprisingly weak signals were mentioned important for future forecasting on the executive as well as the operational management level. This can be interpreted as a company feature, and could possibly even be one of Nurminen success factors.

In current economic situation, the Eurozone in crisis, Nurminen is trying to reach its growth goals. Increasing turnover is difficult for any company at current situation. As a public company, Nurminen also has a responsibility to make profit for shareholders.

8.1 Future tools in use

Each board member bring their own expertise and experience to the board room. The management has certain strategic assumptions, which are needed to form a plan for the future. Basically there are two kinds of strategic assumptions, some based on common trends and visions of the market, and others that are subjective assumptions based on management people's own views. In order to subject all assumptions under criticism, either outside consultation or self-assessment methods can be used to strengthen the chosen assumptions. This also means that the board must be willing to dismiss all assumptions without any real substance or possibility of ever being actually correct in true. It is the board's task to put all assumptions open for evaluation. All decisions about choosing the correct assumptions which to follow through should be done before the management starts to turn direction.

Nurminen evaluates its strategy yearly in management workshops. The purpose is to check, where the company is in relation to strategy and are the goals still correct ones to pursue. Outside consultation is used as the management values third party views and consultation. Through consultants it is also possible to have more market information and knowledge about current trends in the field. Many executive decisions are based on weak signals and scenarios based on these weak signals and macro-level studies.

8.2 Useful information and research

More important than what information is needed, is the method used to prioritize and analyze data. The company must choose right indicators for them, in order to be able to anticipate important changes. The focus must be in core competences; what makes us better than others. Many future tools have the ability to look forward many years as strategy however should have a shorter evaluation period. This can mean that scenarios can be too heavy and too vague to be used in short term strategic planning. In order for boards to have necessary information for short term planning, statistical methods, volumes and pricing, as well as utilizing the management's expertise and knowledge about the market situation are more useful.

On the basis of the interviews it was possible to determine that in logistics research in Finland the results are not always enough for companies to be used as such. A link to actual business is essential, even though purely academic research is also needed. There is a lot of research conducted in logistics with very little results to display. A lot of information can be adopted through basic business analysis such as customer, competitor and market analysis. The customers and their market influence demand. In order to be able to respond to that demand a logistics service provider must have an understanding on customers' business and markets. *The real question is how to anticipate changes in demand and market.*

In the past weak signals have played a big role in making decisions. Also now weak tendencies and signals have impact on actions. Board and management all have a key role in collecting this silent information and bringing it fourth. For Nurminen important knowledge source are the customers and their views and expectations on their business development.

On operational level clusters are seen more useful when tackling current issues such as Customs operations or environmental issues. When companies representing one branch unite in order to pursue a common goal, they are more likely to achieve results together than as a single company. However, future information value is not considered very high in clusters as competitive situation usually means, that certain discretion has to be maintained. The operational leaders must constantly adopt

information and signals from customers, market and competition in order to be able to give adequate information to top management.

8.3 Meaning and experiences of partnerships in future planning

In order to make use of partnerships in future planning, a company should also know its partners and their market situation. To create win-win deals and utilize partnerships sustainably more information and partner's activities is needed. In an ideal situation the partners have the possibility to open communication in order to plan ahead in co-operation.

There is also a risk related in partnerships; they can make you or break you. To have a trusted partnership takes time and sometimes leaps of faith to reach a common goal. If the road to sustainable growth through partnerships is too slow and uncertain, remains to be debated. Partners are however one way to obtain more future knowledge. Expanded market and resources can be reached through partnerships, a possibility otherwise not open for a single small and medium –sized company.

Partnerships are a way to obtain growth in business. A company can have partners through part ownerships or by establishing a clear win-win situation for both companies involved. Nurminen has expanded transportation fleet through strategic partnerships with other wagon owners in Russia, in order to meet customer demands. The question of partnerships is very important for an operator like Nurminen, which does not have a global network of its own. The question is, will Nurminen aim for a global presence and market or is the focus of business more geographically limited. In comparison to companies such as DHL and Schenker DB, the significance of partnerships is bigger to SME logistics companies.

For Nurminen, strategic partnerships have been a way to meet customer demands and reach new market in CIS-countries. Using partners instead of direct investments is also a question of cost and risk. Having correctly chosen partnerships can prove to be more useful for an SME logistics company than actually having to do it the hard way; learning through experience only. Market information gained through partnerships is essential for future planning at Nurminen.

9. REFLECTIONS TO COMPETITION – FUTURES TO BE?

DHL Freight (Finland) has three scenarios based on a Delphi survey, EVA global scenarios 2020 and 2020 Kymenlaakso scenarios. All three scenarios are linked around the recent port merger between Hamina and Kotka Ports. The first and second scenarios are both based on a successful merger and increased traffic due to more reliable image as HaminaKotka Port. DHL would have its competitive advantage either by attaining specific cargo flows or more efficient co-operation with its own company branches. Both scenarios are positive and have similar assumptions about political situation in Eastern Europe and Russia. Also they both assume that paperless forwarding and co-operation with the customs will play a role in future logistics. The third scenario is more negative and displays the situation after an unsuccessful merger. Basically in third scenario the only hope is to compete against other Baltic ports with safety only. Also the HaminaKotka Port development has stopped and both parts of the port are stuck doing things as before; Hamina being a liquid specialized and roro-port and Mussalo keeping to containers and warehousing. (Andrejev 2011)

9.1 Identified scenario features

The scenarios in this research revealed such features that are also applicable on common basis for SME logistics operators within the region. Scenarios seem to follow popular and expected trends in logistics. Also current happenings have been taken into account.

9.1.1 Green logistics and railway transports

All scenarios for DHL suggest that railway transports will have a bigger role in logistics to Russia. As the environmental issues are becoming more urgent, it is true that more energy efficient means of transportation must be sought out. Green logistics has been under discussion for some time now. DHL scenario introduced a suggestion that environmental issues will be determining also financially in the future whether it

be due to customers who export or import the technology or due to changed legislation.

This ecological viewpoint is clearly becoming a trend in the future. Nurminen has already made an investment by acquiring wagon fleet and partners to complete the fleet and route possibilities. Compared to DHL, Nurminen is, however, missing the benefit of global networks. What Nurminen is lacking in its own networks, it tries to compensate with partners. The company has understood the importance of an international network within the chosen market.

9.1.2 HaminaKotka port merger

The port merger overall has been seen as a positive sign by the logistics community in Finland. Combining the abilities, facilities and market value of two closely related ports seems to have success written on it. It is also a question of competitiveness. As Baltic ports are developing their operations and infrastructure, and Russia is also running to meet the market, Finnish ports are in for a fight. Attracting new cargo to ports will be in a key role.

This event is an example of regional changes effecting companies. There were weak signals years before the actual merger happened and Nurminen Logistics was already located in both ports. Like DHL Freight and many other logistics companies also Nurminen Logistics has hopes for this merger to attract new customers and traffic as well as ensuring the South-Eastern transit corridor. Two ports combined have a wider range of services to offer.

9.2 Comparability to Nurminen Logistics

DHL is a bigger company than Nurminen Logistics in terms of volume, personnel, turnover and global network. Also the business format is on totally different level in comparison to Nurminen. With direct competition aspect missing, Nurminen can, however, learn from the giants as well. DHL scenarios are based on macro –level indicators effecting logistics in South-Eastern Finland in general. Scenarios presented

could be possible also for other logistics companies in the region.

The difficulty is, that many of the factors effecting logistics operators cannot be influenced by companies themselves. This is why companies need to be focusing more on their strategic planning from company viewpoint and adopting only chosen future knowledge to base planning on.

10. FUTURE CHANGES EFFECTING LOGISTICS

According to Kondratieff's long wave –theory we are now heading towards the sixth evolutionary wave as introduced in chapter 4.1, the Information Revolution. Biotechnology, nanotechnology, health care and information technology will be the rising industries. (Adams, Mouatt 2010) Just riding the wave is something, but to anticipate the rise and fall takes research and courage to make decisions. Based on past analysis of Nurminen –company history, Kondratieff's wave -theory as well as DHL scenarios introduced the following macro –level change agents can be identified to effect logistics market as a whole.

10.1 Environmental aspect

Climate change is already causing many problems globally. Extreme natural events like hurricanes and earthquakes have surprisingly far reached implications on many things. As frequency of natural catastrophes increases, also the implications have more impact world scale. These events are particularly hard to anticipate and mostly the magnitude of implications is known only afterwards. Companies must, however, take into account, that such possibilities exist and are more frequently a real problem and can cause delays in supply chain. The floods in northern Thailand in 2011 closed down factories and kept products from the selves in many western countries. Globalisation has also made us more vulnerable to such incidents as most of consumer goods manufacturing are located in tropics or sub-tropic hemisphere and in countries which have low or inadequate response possibilities to catastrophe situations.

Pollution control and reducing CO₂ emissions from traffic and production will surely

be an issue also in the future. Biofuels are already becoming available also for consumers. Marine traffic is currently the biggest source of pollution. Also most cargo flows have to be transferred overseas. Currently delivery time is not as important as low price or profit margin. As globalisation has caused companies to outsource their production to cheap labour countries, economies like China and India are constantly developing. The gap between western countries and Asia is decreasing. This can lead to questioning supply chain efficiency when labour costs aren't so low and shortening delivery time can become an issue.

10.2 Security aspects: cargo, information

Due to globalisation, supply chains are facing new challenges also in the need to improve security in information systems as well as cargo movement. Although several conventions and agreements already regulate transportation and Customs is actively involved in securing cargo flows there is still a lot to be done. Companies must recognize the distinct threats to their supply chains and understand that in integrated supply chains the only way to address these issues is by involving all parties involved.

There is also another aspect to the lack of security in supply chains; in worst case it can be an obstacle to improving and developing a more efficient way of doing business. Improving security should also improve overall performance in the supply chain. As supply chain security is a major security issue also for countries and regional governments the importance of supply chain operators cannot be ignored.

In the future logistics operators as well as companies involved in international trade have to use more time when choosing their subcontractors and suppliers in order to insure safety in their supply chain. The emphasis will be more on supplier relationships management and supply chain management. As concentrating on logistics has cut cost for companies now it is time to secure the supply chain in order to achieve optimal cost-efficiency and sustainable logistics. Related to security issues, transparency in supply chains is more important than before. As ISPS-regulations bind most nations information flows must be consistent.

10.3 Technological advancements

Automation and robotics development and innovations can complement human work in cargo handling. Due to containerization ports are mostly unloading and lading standard containers, which enables also cargo handling equipment automation. Ports rely on GPS tracking systems in locating certain containers from container. It is possible, that also straddle carriers and other cranes can be used remote. As possibility of human error and labour decreases, work will be more efficient and reliable. At the same time maintenance cost can rise and software security development is needed.

Information systems have already taken leaps towards paperless office. All foreign trade clearances are dependent on information systems and internet -connections. IT service providers are in for a challenge to ensure reliable and non-stop information transfer. All logistics operators must have or acquire enough knowledge and resources to implement customer based IT-solutions tailored for certain customer needs. As logistics operators will be more and more dependent on information technology, companies will have to make decisions on their IT-solutions. As connectivity to other systems is already a main desired feature, easy access systems will be needed in the future. Logistics service providers are not satisfied with fragmented solutions only covering single areas of logistics operations such as equipment control or warehousing. The most efficient systems will be able to transfer data in different purposes from warehousing to documentation, from fleet tracking to invoicing.

Important factor today considering technological advancements is whether to invest in developing technologies or outsource both knowledge and infrastructure. For logistics operators own information system can be an asset as well as a burden. Companies must decide how important is information technology to core competence and base their decisions on chosen variables.

10.4 Structural changes in Finnish industry

Decrease in exports is a current issue troubling the country and many companies. As forest and paper industry products are decreasing in exports, new articles and export consumables are likely to take place. Container availability is an important issue for Finland as vessels calling Finnish ports are much smaller than the ones calling overseas Germany and Netherland free ports. Rivalry between Baltic Sea ports means that ports need to develop and tighten their operations to meet the competition.

Logistic companies must be ready to meet new customer demands in terms of equipment, facilities and expertise. Anticipating the Kondratieff's sixth wave by doing the right investments, getting right kind of customers with possibility to succeed in their market and just being in the right place at the right time is what determines future winners.

10.5 Educational advances; logistics discipline to have new influences

Logistics research and education has originated from the United States. This means that most of research has been done in the United States. Europe is also catching up to logistics discipline. Logistics research should provide up to date information on all related topics within the discipline. Schools and universities should engage more actively in future research methods in order to provide tools or frames for company research and development. Logistics education should provide more tools for anticipating changes and innovation rather than concentrating on problem solving methods. This change in orientation for logistics schools would reflect on business and could lead to completely different kind of approach to strategic management in logistics.

If future research can provide frames and scenarios on larger scale, the companies have a possibility to narrow down on specific trends or phenomenon relevant to strategy. Companies and scientific research should have a common agenda, even if the viewpoint is different. Logistics research should give more knowledge and methods to

business and companies to utilize. Logistics R&D is now in the hands of logistics companies and mostly based on customer demand. Providing the customers new innovation for their logistics solution should be the ultimate goal for all logistics companies.

11. SCENARIOS FOR LOGISTICS IN FINLAND

Finland is facing many changes in current economic situation. Decreasing forest industry, taxation of fossil fuels, railway infrastructure decay, political aspects in Russia and Baltic countries, global operator competition and other similar challenges have impact on logistics operators.

Based on chosen macro –level variables in chapter 10 having most effect to logistics branch in Finland and evaluating possible changes in those variables, scenarios can be formed. Only chosen indicators with cause-effect –relation to other indicators are used in scenarios. These scenarios are built on SWOT (Strengths, weaknesses, opportunities, threats) -analysis base by examining each scenario as posing strengths, weaknesses, opportunities or threats. In Figure 6 is shown scenario structure.

Scenarios for Finnish logistics branch

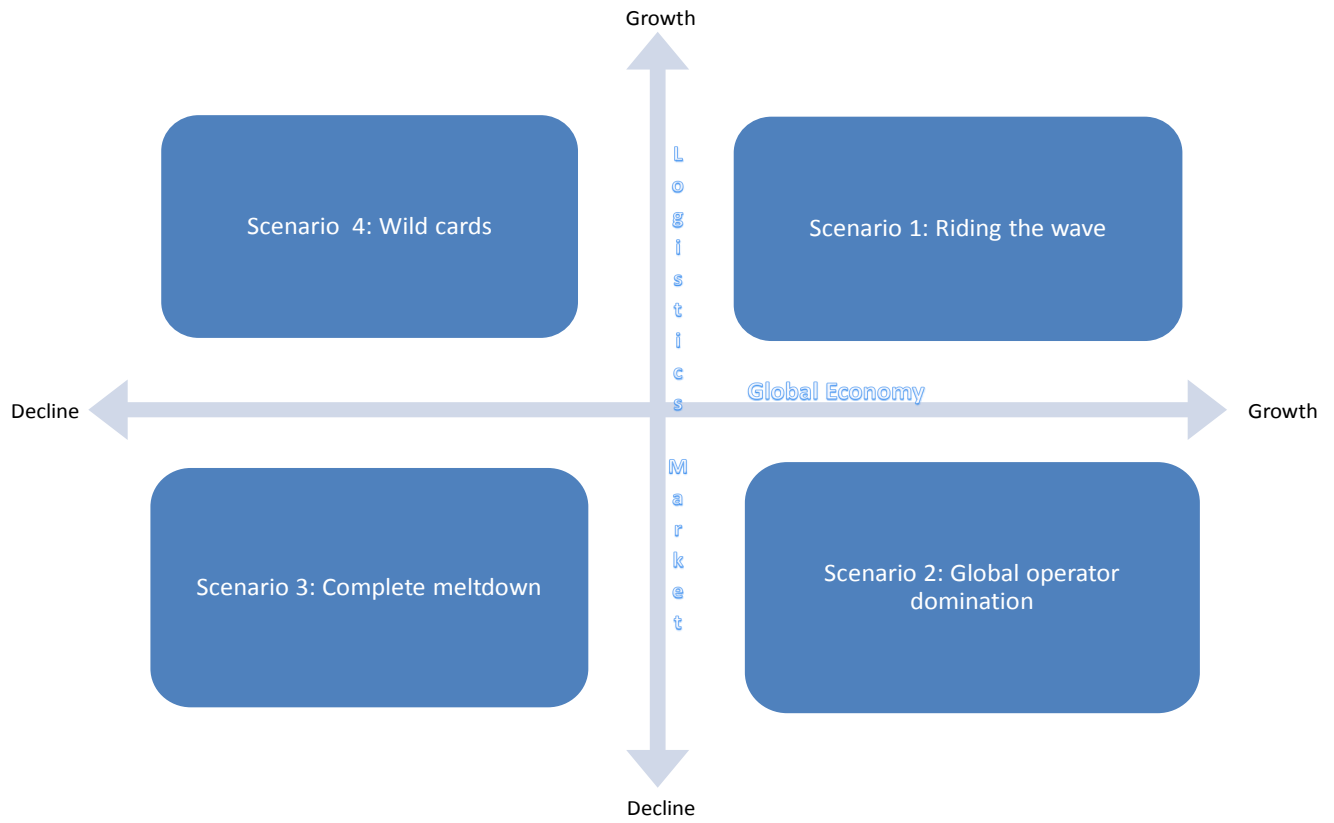


Figure 6. Scenario structure

All scenarios have been made from SME logistics operators' viewpoint and are based on the next 20 years used is based on Kondratieff's 6th wave –theory introduced in chapter 4. Scenarios are made macro –level for logistics branch and later reflected to Nurminen Logistics.

11.1 Scenario 1: Riding the wave

In first scenario changes in environmental issues, green logistics has had a huge impact, and actual measures have been taken in Europe and Russia to control the climate change. Supply chains are based on more sustainable methods, railways and electric cargo handling equipment. Finland is in full speed for 6th Kondratieff's wave having new export products based on advanced healthcare systems and environmental

technology. Logistics research has taken leaps towards more scientific research. Companies are more future orientated and logistics market has healthy competition. SME logistics companies have a possibility to succeed as many of these new highly sophisticated export products need specialized storage and handling, so niche market is open for smaller players. Logistics market and global economy are growing.

First scenario is based on growing trend and many companies are already involved in environmental issues. John Nurminen -foundation has dedicated its operation on protecting and preserving the Baltic Sea. Marine incidents have already caused several ecological catastrophes when leaking oil has polluted seashores and killed marine life. It is only a matter of time when environmental issues will have impact also on customer demands.

11.2 Scenario 2: Global operator domination

Also in the second scenario, environmental issues are expected to have meaning deriving from the 1st scenario. However, logistics market for Finland is declining due to political changes in Russia and Asia. Logistics education has been neglected, so smaller companies are finding it difficult to find educated work force. Global operators have monopoly as all educated personnel works for global operators. Also Finnish export companies have to shift their production as better logistics service is available elsewhere in Central-Europe.

Aging demographic and challenges to have enough professionals in all areas of business will be a future problem in Finland. Logistic education should be developed to meet new trends and technologies. Nurminen also relies on educated and professional people as one of their main asset. Experience and internal innovation come from dedicated personnel with motivation. Changes in political atmosphere are constantly possible when talking about the Russian market. The competition from other Baltic countries is a reality and that is why it is even more important for Finnish logistics companies to catch a grasp on their forecasting methods in order to maintain leading position. Global companies are already present in the market and SME's have

to compete against worldwide networks. Niche markets and networking as well as differentiation are ways to tackle the matter. Agility is an asset to smaller logistics operators.

11.3 Scenario 3: Complete meltdown

The third scenario is based on assumption, that no or insufficient measures will be taken to meet climate change. Also global economy is heading towards recession and logistics market suffers from elevated freights due to outrageous congestion taxes. Due to lack of finance, logistics education has fallen behind. European logistics market is in competition only through pricing and Finland is losing its transit volumes. Global operators are doing better than smaller companies, but are not on solid ground. Information security remains low, as finance from European Customs projects has been cut.

At the moment we are not far from this third scenario. The world is struggling with the economic crisis, and pollution restraints are harder and harder to set in convention. However, this state continuing can only lead to downfall of logistics branch. Neglect of education, training and information systems development will slow down all development in logistics. Likelihood of the third scenario within the next 20 years is not very high: climate change, information security and experience from current economic crisis will surely be a in the collective memory for decades to come.

11.4 Scenario 4: Wild cards

The fourth possible scenario provides a total. The global economy is in poor shape, but logistics market finds a way to turn weaknesses into strengths. Inspired by long on-going recession, Finnish logistics research find a new revolutionary way of packaging perishable goods and goes global with this new innovation. Finnish logistics has been surviving on transiting, but this new innovation grows new handling methods and warehouse operating procedures all in demand.

Wild card –scenario could also be any other ground-breaking innovation or extreme event changing the logistics environment for good. This scenario is the hardest one to anticipate, unless the company is in the forefront. Pioneering innovations or solutions to new problems can be a double sided sword; investments must be made, but also returns on invest can be substantial.

11.5 Scenario implications for Nurminen Logistics

A summary of the scenarios is shown in Figure 7. Nurminen is already making a statement focusing on railway transportation and at the same time committing to more environmentally friendly way of transportation.

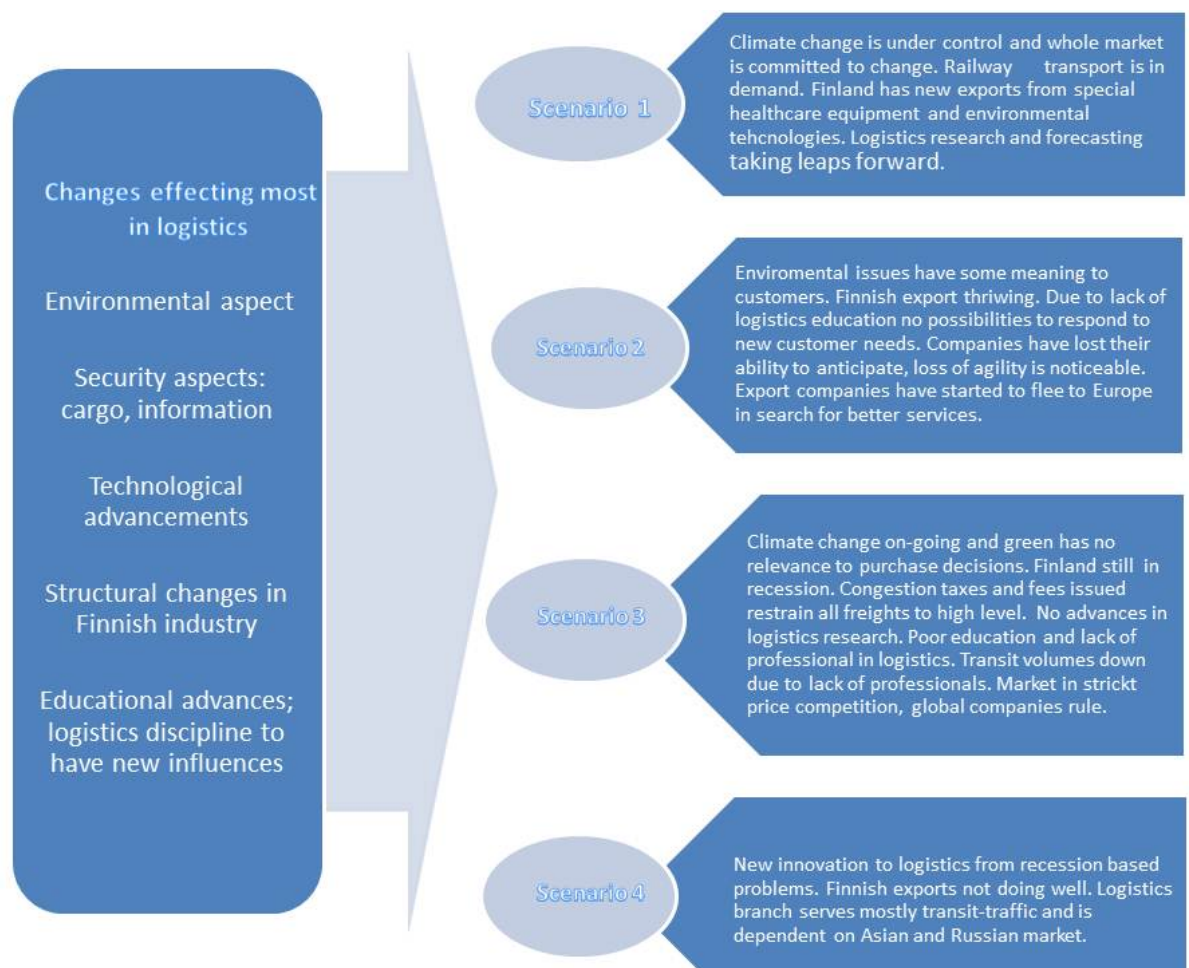


Figure 7: Summary of scenarios

Scenarios 1 and 2 can be considered somewhat positive for Nurminen and hold great potential for growth. In scenario 2 the loss of agility is, however, a threat. Scenario 3 would be the ultimate kill blow for Nurminen in long run. Unless railway infrastructure, handling, equipment and procedures undergo a rejuvenation it will in long run surely come to its end as a transportation method. Scenario 4 representing basically any surprise element or innovation can be considered a possibility also for Nurminen. It is up to management and executives to catch on to these surprises or better yet even be an active part as a company in making new innovation into reality.

Analyzing threats and possibilities in scenarios, today's strengths and weaknesses can also be reflected in same way. Will these strengths and weaknesses will also be present in scenarios created, can be debated. Nurminen Logistics has to follow weak signals and macro –level indicators in order to keep current capabilities and also to continue evaluation these features constantly.

12. COMPETITIVE ADVANTAGE IN THE FUTURE FOR LOGISTICS COMPANIES

Competitive edge should not be confused with competitiveness. Many features in the process are similar to other companies operating in the same markets, so it is important to define the ones that separate a company from others. It can be a unique feature in a product or service or it can be a process inside the company. If the edge is not defined, there is a risk that it actually does not exist. This kind of problem is critical and means that the company does not have a real advantage compared to its competitors.

Based on the results of this study four main development areas can be recognized: networking or using partnerships in order to expand and have a more global connections and vision, maintaining company agility, finding a true differentiation to rival companies and isolating future indicators to follow. For many logistics service providers this can mean taking a leap of faith and choosing a niche segment with possibilities also in the future. Differentiation from the mass is essential for logistics companies with the need to succeed.

12.1 Networking

Global networks are an asset to most logistics organizations. Whether to build up own network or to rely on partners is a determining future question. Companies already operating with global networks do have the advantage. Also the fact that the whole supply chain can be operated by only one company brings out benefits for the customer.

The meaning of partnerships will have a bigger role for logistics operators with no global network. Such companies will have to make decision on whether to use subcontracting or to engage in somewhat risky partnerships. Supplier management will be an issue for logistics companies in the future. Networks can provide information useful for forecasting. Having a network of different companies with different customers will expand the knowledge of customer markets. However limited and restricted this information might be, weak signals and emerging trends can be detected this way.

12.2 Maintaining agility

Logistics field has large world scale companies operating in the market. In all companies it is important to maintain decision making processes fast enough to respond and even anticipate changes in demand and markets. Response time to customer demands has already diminished and the trend seems to be on-going.

Forecasting has a role in future decision making. As responding to customer needs is not enough, knowing and understanding customer market will be even more important. Making decisions based on future information is however a skill to be learned. Logistics knowledge creation and validating information in order to base business decisions on that information will be essential.

12.3 Differentiation from competition

Based on this study and analyzes in company, it is possible to find key elements to finding the competitive advantage for the future. When a company is choosing to which precursors to base its future plan on, this leads to certain strategic differentiation. Of course the company core business should be different from competition but through specific and well managed forecasting it is possible to attain even more differentiation compared to competition.

A company should also consider the possibility that the current edge can be lost. Sometimes this can be a result from changing market, sometimes it can be over taken by another skill by the competitor. Company should plan and strategies also for this scenario. Sometimes companies can lose their direction and decrease their profitability by not anticipating changes in competitors, customer needs or markets.

12.4 Recognising future indicators with true meaning

Companies need to have a systemized method to collect, analyze and implement decisions on future knowledge. Choosing correct method is important, but even more importantly incorporating forecasting in decision making requires understanding of future indicators. In order for the strategy to develop and be prepared for future changes a company must choose indicators to follow. Following future indicators on which to base the decision can be shown as a process steps in below list.

- 1) Choose indicators to follow, examine and analyze.
- 2) Choose timeframe.
- 3) Choose the method used to follow indicators.
- 4) Evaluate results actively: question of timeframe, question of immediate or later.
- 5) Make assumptions based on evaluation
- 6) Compare chosen assumptions to existing strategy.
- 7) Make changes or not based on results.

- 8) Reflect on changes made – how accurate was the decision making based on the indicators to be followed.
- 9) Repeat steps 4-8.

Following chosen indicators is much easier than trying to keep up with all macro – level research and results available. The point of choosing indicators and following up is to provide constant flow of information to support fast and accurate decision making for a company. This information can come from weak signals, customer market or clusters. To be able to utilize above mentioned data in an efficient way, a process must be created.

13. CONCLUSIONS

All debate can be condensed to one question; what is actually important in future studies and forecasting, so that a company can actually utilize the information. Only producing alternate futures from which to choose from is not a solid base enough for strategy development. Also the problem of how to choose the actual real future, still remains.

Future studies cannot remain as purely academic science, in no relation to reality. Understanding everything and cause –effect in cross-disciplinary level would be the ultimate solution, but businesses do not have the time or resources to do it. Companies are busy doing their core business and operating on a chosen market. Building up profit is the main goal. Everything which does not directly and cost efficiently contribute is in business viewpoint meaningless. However, intriguing future studies may be, the companies have to think more short term and focused. In some context researches have stated, that it is a mistake to disregard the connections to other industry branches and environments in effect when conducting future studies. This makes the task almost impossible. Companies cannot have back up plans and several strategies to meet every occasion or even a few. Clear direction and strategy is essential.

There are many instances and faculties which produce different kind of future estimates and scenarios based on social, economic, environmental and other common indicators to all commerce. Instead of trying to understand how everything effects to everything, it is more efficient to concentrate on chosen areas or issues, and try to anticipate or better yet, be a part in changes to come.

13.1 Evaluation on research

According to the research plan, first there was a theoretical study of existing knowledge on future research and logistics study. Company history was reviewed and analyzed in order to find focal points in decision making process. Interviews were conducted to determine current situation in the company in strategy development and utilization of future and forecasting tools and information. Also in interviews was researched knowledge creation in logistics and demands for logistics education from business viewpoint. DHL Freight's scenarios were discussed in relation to Nurminen Logistics. Scenarios for SME logistics operators in Finland were formed based on Kondratieff's 6th wave theory and selected macro-level indicators. These scenarios were reflected to Nurminen Logistics. As a result of the study, competitive advantages in the future for logistics companies were identified and meaning to strategy was determined.

13.1.1 Evaluation on research methods

Selected qualitative methods of analysis, semi-structured interviews, case-studies and scenarios were chosen on basis of subject and relevancy. By analyzing existing data theoretical frame work was established. Data analysis was composed following the lines of Grounded Theory, where the actual theories are formed based on material analyzed (Strauss, Corbin 2000). Company history analysis gave a starting point for determining current situation of future studies and strategy development in the

company. Case-study and interviewing selected people from the chosen organization were found as most effective research methods in this study.

Selecting a logistics company with 125 years of documented history and knowledge of the logistics business gave the research creditability. Also Nurminen Logistics as a company is well suited for comparison to other SME logistics companies in Finland. Reflecting DHL scenarios to Nurminen Logistics strengthening identified trends and tendencies, but is not in direct comparison to Nurminen due to company size. However, this comparison was useful in terms of understanding future developments in logistics in Finland.

13.1.2 Summary of research results

As a result four factors effecting competitive advantage of SME logistics companies in future were established. Also specific future changes affecting the logistics branch were identified. Currently future studies and future tools do not provide accurate enough information for SME logistics companies to use.

Also in the case study Nurminen Logistics company history was analyzed and a starting point for evaluation on use of future tools and information in strategic planning was established. Based on a another study in future studies of logistics as well as identified future changes alternate scenarios were created for logistics branch in Finland. These implications were then reflected to Nurminen Logistics and in order to tackle identified threats in scenarios Nurminen needs to keep up and develop its future planning.

13.1.3 Evaluation on results

Reviewing future studies from logistics business viewpoint opened new discussion points and need for further research. Future research on its own has little significance for companies unless linkage to actual strategy process. Logistics branch needs to have organized future research in order to develop education and provide useful data for businesses to use in strategic planning.

Nurminen Logistics Oyj gained valuable information from their past analysis and case-study regarding future forecasting. Scenarios presented in the study gave insight to future possibilities and opportunities. Understanding the relevance of systemized forecasting and identifying key factors for maintaining competitive advantage, will be an asset in the future.

13.2 Research implications

The research caused discussion on the subject in board members and management. Future studies is easily regarded as very abstract and academic and not applicable to actual business. Crystal balls and card reading have nothing to do with actual future research. There is a real link between strategy development and foresight study not to be ignored. Understanding how future studies can be integrated to corporate planning in a way that is both fast and enabling decision making is important.

Thriving companies of the next decade are the ones who have the knowledge, skill and determination as well as courage to believe in their vision and see new opportunities even during great depression. Logistics companies must learn to understand the importance of forecasting and more importantly to convert information and data into decisions. Whether the method chosen is collecting weak signals or relying on chosen indicator development, it is important to recognize that all decisions made should contribute also in the future.

Nurminen Logistics has already methods used to evaluate and focus strategy. Understanding of weak signals and appreciating operational and managerial level as a knowledge source for forecasting is the first step towards a learning organization. Being in tune with all aspects having effect in changes in market is not as efficient as following chosen variables. Having an organization trained to observe and also to pass on valuable future knowledge is a quality to preserve and encourage.

13.3 Further research

Future studies is not close to businesses the moment. In order to have micro –level forecasting, businesses need to be involved and active in future research. Clusters being the most known and visible form of future studies in logistics branch, there are not many options in future research methodology for companies to choose from. Developing new ready-made –formats to serve especially companies providing logistics services is as a research area yet to be developed.

Creating a simple systematic way of forecasting only for SME logistics corporations use would be a possible project. Choosing or creating easy to implement methods which are repeatable and feasible and support fast decision making process would be a future tool with real substance. Also having more in-depth scenarios, basing on chosen future indicators affecting logistics branch could bring logistics research to a new level.

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Appendix 1. Interview Body Questionnaire

What is important to future forecasting?

- Global aspect?
- Regional aspect?
- Market aspect?
- Methodology?
- What kind of information is useful?
- Where to get information and data?
- Is strategy checked?
- How to have a valid plan for the future?
- The meaning of opinions?

Tarkistetaanko meillä strategiaa aika ajoin ja jos tarkistetaan, niin millä aikavälillä?

Mistä saadaan tietoa strategian kehittämiseen?

Millaista tulevaisuustietoa (ennusteet, tutkimukset) meillä käytetään hyväksi?

Millainen tieto on ylipäättään relevanttia ja tärkeää, kun ennakoidaan tulevaa?

Onko meillä jotain tulevaisuutta ennustavia työkaluja käytössä (skenaariot, klusteriennusteet...)?

Millaista tietoa Nurminen yrityksenä kaipaisi (vai kaipaako?) tiedekorkeakouluilta ja tutkimuslaitoksilta, eli millaisesta tiedosta olisi apua strategian tarkistuksessa?

Onko ylipäättään tulevaisuuden tutkimus/ennusteet hyödyllisiä käytännössä?

Mitkä asiat ovat Nurminen Logisticsin (eli nimenomaan pörssi-yhtiön) aikana olleet strategian kannalta tärkeitä? Mikä on näkemyksesi Nurmisen kilpailuedusta jatkossa (5-10 v)?

Appendix 2. Table 3.

What is important for future forecasting, interview results

	Former Board Member	Current Board Member	Senior Vice President	Regional Manager (operations)
<i>Global aspect, importance to forecasting</i>	Important, but only in context.	Important, but only in context.	Somewhat important in context.	Somewhat important in context.
<i>Regional aspect, importance to forecasting</i>	Very important.	Very important.	Very important.	Very important.
<i>Market aspect, importance to forecasting</i>	Very important.	Very important.	Very important.	Very important.
<i>Methodology</i>	Scenarios can be too vague. Concentration on chosen indicators in key role.	Some scenarios useful when in context with vision. Weak signals.	Following market situation in selected industries, competition and statistical methods.	Some scenarios useful. Constant flow of weak signals.
<i>What kind of information is useful</i>	Information related to core competence.	Information from customers and from selected branches.	Customer forecasts and strategies.	Information from customers and from selected branches.
<i>Where to get information and data</i>	Customers, research studies	Customers, research studies.	no answer	Customers, competition, clusters.
<i>Is strategy checked</i>	Yes.	Yes, in periods of 1 or 2 years.	Yes, yearly.	Yes, in periods of 1 or 2 years.
<i>How to have a valid plan for the future</i>	Concentrating on indicators and core competencies.	Concentrating on core competencies.	Concentrating on main market area, investment market and recent past.	Being constantly in tune for weak signals and other important indicators.
<i>Meaning of opinions</i>	Correct and chosen assumptions important and meaningful.	Important, being opinions usually individual experience - weak signals.	Important.	Important, also competitor information valuable.
<i>Meaning of brand in the future</i>	Very important.	Very important.	Very important.	Very important.